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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,406	08/06/2003	Joel W. Schoenblum	A-9049	1436

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SCIENTIFIC-ATLANTA, INC.
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EXAMINER
RAO, ANAND SHASHIKANT

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/635,406	SCHOENBLUM, JOEL W.
	Examiner	Art Unit	
	Andy S. Rao	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *22-32* is/are allowed.

6)☒ Claim(s) *1-4 and 21* is/are rejected.

7)☒ Claim(s) *5-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *8/6/03*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20061005

DETAILED ACTION

Specification

1.   The lengthy specification has not been checked to the extent necessary to determine the

presence of all possible minor errors. Applicant's cooperation is requested in correcting any

errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1-4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elfrig

et al., (hereinafter referred to as "Elfrig") in view of Komiya et al., (hereinafter referred to as

"Komiya").

        Elfrig discloses an apparatus in a network for transcoding a digital stream of compressed

frames, the apparatus comprising: a decoder adapted to decompress a frame having content

information and non-content information included therein into the run-level domain (Elfrig:

column 19, lines 15-25), wherein the content-information carried by the frame is represented in

run-level domain (Elfrig: column 26, lines 10-13); a processor wherein the content-information

of the frame is changed from initial content information to final content information (Elfrig:

column 23, lines 45-65); and an encoder adapted to compress the frame (Elfrig: column 16, lines

45-60), as in claim 1. However, Elfrig fails to disclose that the processor is adapted to determine

the number of bits to shave (Ns) from the frame and adapted to process the frame in the run-level

domain to reduce the compressed bit size of the frame by approximately Ns bits, as in the claim.

Komiya discloses a transcoder which discloses a processor adapted to determine the number of

bits to shave (Ns) from the frame and adapted to process the frame to reduce the compressed bit

size of the frame by approximately Ns bits (Komiya: column 16, lines 35-45: "bits cut" process)

in order to implement robust bit rate control without image quality degradation (Komiya: column

25, lines 50-60). Accordingly, given this teaching of the Komiya references, it would have been

obvious for one ordinary skill in the art to incorporate the Komiya bits cut process into the Elfrig

transcoder in order to have the Elfrig transcoder implement robust bit rate control without

incurring image quality degradation. The Elfrig apparatus, now incorporating Komiya's bit

cutter, has all of the features of claim 1.

Regarding claim 2, the Elfrig apparatus, now incorporating Komiya's bit cutter, has

wherein the processor is further adapted to: (a) determine whether to requantize at least a given

portion of the frame (Elfrig: column 19, lines 30-35); (b) responsive to determining to requantize

at least the given portion of the frame, requantize in the run-level domain at least the given

portion of the frame (Elfrig: column 26, lines 10-15); (c) determine whether to threshold at least

the given portion of the frame (Elfrig: column 16, lines 45-51); and (d) responsive to determining

to threshold at least the given portion of the frame, threshold in the run-level domain at least the

given portion of the frame (Elfrig: column 26, lines 10-13), as in claim 2.

Regarding claim 3, the Elfrig apparatus, now incorporating Komiya's bit cutter, has

wherein the frame is made up of multiple blocks arranged in a sequence, and each block is

represented by at least one set of run-level pairs, and the given portion of the frame is
represented by at least one set of run-level pairs (Elfrig: column 24, lines 50-56), as in the claim.

Regarding claim 4, the Elfrig apparatus, now incorporating Komiya's bit cutter, has
wherein the given portion of the frame is a slice of the frame, and each set of run-level pairs
representing a block of the slice is processed in parallel (Elfrig: column 20, lines 1-5), as in the
claim.

Regarding claim 21, the Elfrig apparatus, now incorporating Komiya's bit cutter, has
wherein to determine the number of bits to shave (Ns) from the frame the processor is further
adapted to: determine total size (NT) of the frame (Elfrig: column 28, lines 60-68), wherein the
total size (NT) is number of bits of the frame when the frame is compressed, and wherein
number of bits to shave (Ns) is defined as the difference between the total size (NT) and a
desired size (ND), Ns = NT – ND (Komiya: column 16, lines 35-45), as in the claim.

Allowable Subject Matter

4.   Claims 5-20 are objected to as being dependent upon a rejected base claim, but would be
allowable if rewritten in independent form including all of the limitations of the base claim and
any intervening claims.

5.   Claims 22-32 are allowed.

Independent claim 22 recites "...receiving in a first bit stream a compressed frame having
compressed content information and non-content information therein, the compressed frame
having a first bit size (NT1), and the compressed content information having a first bit size
(CT'l); determining an approximate number of bits to shave (Ns) from the compressed frame,

decoding the compressed frame such that the frame is represented by initial content information

formatted in sets of run-level pairs, wherein each set of run-level pairs is defined by a set of

levels and an associated set of runs; associating a scan position with a level in a set of run-level

pairs; decomposing the sets of run-level pairs into sets of levels and sets of runs..." which are

features that are not anticipated nor obvious over the art of record. Dependent claims 23-32 are

allowed for the reasons concerning the independent claims.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Wang discloses dynamic bit allocation.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The

examiner can normally be reached on Monday-Friday 8 hours.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

<div style="text-align: right;">

Andy S. Rao
Primary Examiner
Art Unit 2621

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asr
October 5, 2006

ANDY RAO
PRIMARY EXAMINER